

Docket No.: 0230-0219PUS1
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Atsushi NAGASAWA

Application No.: Not Yet Assigned

Confirmation No.: N/A

Filed: January 4, 2005

Art Unit: N/A

For: NOVEL BAKERS' YEAST STRAINS AND
BREAD MADE USING THE SAME

Examiner: Not Yet Assigned

LETTER

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

The PTO is requested to use the amended sheets/claims attached hereto (which correspond to Article 19 amendments or to claims attached to the International Preliminary Examination Report (Article 34)) during prosecution of the above-identified national phase PCT application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §1.16 or 1.14; particularly, extension of time fees.

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GMM/nl

Respectfully submitted,

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Attachment(s)

little time for fermentation after mixing. However, if the amount of yeast is increased, the offensive taste and odor characteristic of yeast will become stronger, making the flavor of the bread unpleasant. Likewise, a no-time dough
 5 which needs little time for fermentation also has a stronger offensive taste and odor characteristic of yeast because the fermentation flavor is weak in this dough, thus resulting in a more unpleasant bread flavor.

In a traditional bread making process (i.e., non-
 10 freezing process) which uses a non-frozen dough, the bread flavor is also unpleasant, for the same reason as stated above, if a short fermentation process is used to reduce the time required for the bread making process.

Moreover, in a case where conventional bakers' yeast
 15 strains are used to make breads such as those supplemented with fats (e.g., expensive cultured butter, sour cream) or those based on fermented starters (e.g., panettone starter, liquor yeast ferment), the offensive taste and odor characteristic of bakers' yeast would mask the aroma of
 20 these raw materials and impair the flavor.

An example of bakers' yeast strains whose offensive taste and odor characteristic of yeast is weak can be found in "a method for making bread using yeast isolated from sea water" (see JP 6-52 A), in which a strain of *Saccharomyces*
 25 *cerevisiae* isolated from sea water is used to provide bread with a beautiful aroma. However, such a strain is less freeze-tolerant and is difficult to use in frozen doughs. Likewise, bakers' yeast strains with high freeze tolerance

are exemplified by those found in JP 5-64581 A, JP 7-203952
A and JP 12-279165 A, but these strains have a strong
offensive taste and odor characteristic of yeast, which is
responsible for making the flavor worse in yeast-rich
5 frozen doughs under present circumstances.

SUMMARY OF THE INVENTION

The present invention provides a novel bakers' yeast
strain whose offensive taste and odor characteristic of
10 yeast is very weak. The present invention also provides a
novel freeze-tolerant bakers' yeast strain whose offensive
taste and odor characteristic of yeast is very weak. The
yeast strains of the present invention enable the

10. (New) A strain of *Saccharomyces cerevisiae* characterized not only by being freeze-tolerant, but also by having an isobutyric acid content in dry cells of 150 ppm or less and thus showing a weak offensive taste and
5 odor characteristic of yeast.
11. (New) The strain of *Saccharomyces cerevisiae* according to claim 1, which is *Saccharomyces cerevisiae* strain FT-4 (FERM BP-8081).
12. (New) A frozen bread dough characterized by having a
10 weak offensive taste and odor characteristic of yeast, wherein the frozen bread dough is prepared using a strain of *Saccharomyces cerevisiae* characterized not only by being freeze-tolerant, but also by having an isobutyric acid content in dry cells of 150 ppm or less and thus showing a
15 weak offensive taste and odor characteristic of yeast.
13. (New) The frozen bread dough according to claim 3, wherein the strain of *Saccharomyces cerevisiae* is *Saccharomyces cerevisiae* strain FT-4 (FERM BP-8081).
14. (New) A method for preparing a frozen bread dough
20 characterized by having a weak offensive taste and odor characteristic of yeast, wherein the frozen bread dough is prepared using a strain of *Saccharomyces cerevisiae* characterized not only by being freeze-tolerant, but also by having an isobutyric acid content in dry cells of 150
25 ppm or less and thus showing a weak offensive taste and odor characteristic of yeast.
15. (New) The method for preparing a frozen bread dough according to claim 5, wherein the strain of *Saccharomyces*

cerevisiae is *Saccharomyces cerevisiae* strain FT-4 (FERM BP-8081).

10. (Canceled)
11. (Canceled)
12. (Canceled)
13. (Canceled)
- 5 14. (Canceled)
15. (Canceled)
16. (New) A bakers' yeast strain characterized not only by having sufficient fermentability in both high-sugar and low-sugar bread doughs, but also by having an isobutyric
- 10 acid content in dry cells of 150 ppm or less and thus showing a weak offensive taste and odor characteristic of yeast.
17. (New) The bakers' yeast strain according to claim 16, which belongs to *Saccharomyces*.
- 15 18. (New) The bakers' yeast strain according to claim 17, which is a strain of *Saccharomyces cerevisiae*.
19. (New) The bakers' yeast strain according to any one of claims 16 to 18, which is freeze-tolerant.
20. (New) The bakers' yeast strain according to claim 19,
- 20 which is *Saccharomyces cerevisiae* strain FT-4 (FERM BP-8081).
21. (New) A bread dough prepared using the bakers' yeast strain according to any one of claims 16 to 19.
22. (New) A method for making bread characterized by
- 25 having a very weak offensive taste and odor characteristic of yeast, wherein the bread is made using the bakers' yeast strain according to any one of claims 16 to 19.
23. (New) A bread dough prepared using *Saccharomyces*

cerevisiae strain FT-4 (FERM BP-8081).

24. (New) A method for making bread characterized by having a very weak offensive taste and odor characteristic of yeast, wherein the bread is made using *Saccharomyces*
5 *cerevisiae* strain FT-4 (FERM BP-8081).

25. (New) A strain of *Saccharomyces cerevisiae* characterized not only by being freeze-tolerant, but also by having an isobutyric acid content in dry cells of 150 ppm or less and thus showing a weak offensive taste and
10 odor characteristic of yeast.

26. (New) The strain of *Saccharomyces cerevisiae* according to claim 25, which is *Saccharomyces cerevisiae* strain FT-4 (FERM BP-8081).

27. (New) A frozen bread dough characterized by having a
15 weak offensive taste and odor characteristic of yeast, wherein the frozen bread dough is prepared using a strain of *Saccharomyces cerevisiae* characterized not only by being freeze-tolerant, but also by having an isobutyric acid content in dry cells of 150 ppm or less and thus showing a
20 weak offensive taste and odor characteristic of yeast.

28. (New) The frozen bread dough according to claim 27, wherein the strain of *Saccharomyces cerevisiae* is *Saccharomyces cerevisiae* strain FT-4 (FERM BP-8081).

29. (New) A method for preparing a frozen bread dough
25 characterized by having a weak offensive taste and odor characteristic of yeast, wherein the frozen bread dough is prepared using a strain of *Saccharomyces cerevisiae* characterized not only by being freeze-tolerant, but also

by having an isobutyric acid content in dry cells of 150 ppm or less and thus showing a weak offensive taste and odor characteristic of yeast.

30. (New) The method for preparing a frozen bread dough
5 according to claim 29, wherein the strain of *Saccharomyces cerevisiae* is *Saccharomyces cerevisiae* strain FT-4 (FERM BP-8081).